

CLAIMS

1. An illuminated sign comprising:
a housing, said housing having a first side panel with indicia;
a first light engine, said first light engine comprising at least one LED and a
5 carrier,
wherein said first light engine is mounted such that light emitted by said at least
one LED illuminates said first side panel.
2. The sign of claim 1, wherein the sign is a street sign and the indicia comprise a
10 street name.
3. The illuminated sign of claim 1 wherein the light engine is mounted at an angle
from vertical.
- 15 4. The illuminated sign of claim 3 wherein the light engines are mounted about 33° -
45° from vertical.
5. The illuminated sign of claim 4 wherein the light engine is mounted about 39°
from vertical.
- 20 6. The illuminated sign of claim 1 wherein the first light engine further comprises a
reflector.
7. The illuminated sign of claim 6 wherein the reflector has at least one aperture,
25 said aperture aligned with said at least one LED.
8. The illuminated sign of claim 1 further comprising an additional reflector mounted
at the base of the housing.
- 30 9. The illuminated sign of claim 8 wherein said additional reflector is adapted to
direct light from said at least one LED to said first side panel with indicia.
10. The sign of claim 1, wherein
said housing further comprises a top portion, a bottom portion, a second side
35 panel and two end plates,
said top portion, bottom portion, side panels, and end plates define a space
having an interior, and said at least one LED is located on the interior of said housing.

11. The sign of claim 2 wherein said at least one side panels with indicia comprises a diffuser.

12. The sign of claim 1 wherein said at least one LED is soldered on a PCB.

13. The sign of claim 12 wherein the at least one LED is soldered on a metal core PCB.

14. The sign of claim 1 wherein said light engine comprises a second PCB soldered to at least one LED and said PCBs are slidably mounted in the carrier and are connected by a connector.

15. The sign of claim 12, wherein the light engine further comprises a heat sink.

16. The sign of claim 15, wherein the carrier has a contoured projection, said contoured projection adapted to contact said housing.

17. The sign of claim 15, wherein heat is transferred by heat conduction to the heat sink.

18. The sign of claim 1 wherein the light that illuminates a side panel is substantially uniform.

19. The illuminated sign of claim 1 further comprising
a second light engine, said second light engine comprising a carrier and at least one LED; and
said housing having a second side panel with indicia, wherein
said second light engine is mounted such that light emitted by said at least one LED illuminates said second side panel.

20. The illuminated sign of claim 19 wherein the light engines are mounted at angle from vertical.

21. The illuminated sign of claim 20 wherein the light engines are mounted about 33° - 45° from vertical.

22. The illuminated sign of claim 4 wherein the light engines are mounted about 39° from vertical.

23. The illuminated sign of claim 19 wherein the first light engine further comprises a reflector and a second light engine further comprises a reflector.

5 24. The illuminated sign of claim 23 wherein the reflectors each have at least one aperture, said aperture aligned with said at least one LED.

25. The illuminated sign of claim 19 further comprising an additional reflector mounted at the base of the housing.

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26. The illuminated sign of claim 25 wherein said additional reflector is adapted to direct light to said side panels.

15 27. The illuminated sign of claim 26 wherein said additional reflector has a first and second planar surface, angled more than 180° wherein said first surface is adapted to direct light to said first side panel and said second surface is adapted to direct light to said second side panel.

20 28. An illuminated sign comprising:
a housing, said housing having two side panels; and
a pair of light engines each comprising at least one LED, a carrier and a reflector;
wherein said LEDs illuminate said side panels.

25 29. A carrier for a light engine comprising:
a mounting surface and an optic surface;
said mounting surface having a first support arm, a second support arm and a contoured projection extending longitudinally; and
said optic surface having a central channel; and a pair of sidewalls,
wherein said contoured projection is adapted to contact a housing.

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30. The carrier of claim 36, wherein the carrier is made of extruded aluminum.

31. The carrier of claim 36, wherein the first and second pairs of optic tracks are adapted to slidably mount a PCB with at least one LED in the tracks.

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32. The carrier of claim 40, further comprising a reflector.

33. The illuminated sign of claim 6 wherein the reflector has at least one aperture, said aperture aligned with said at least one LED.